1878MNRAS..39...75T

It is remarkable that the ancient eclipses should uniformly indicate a greater value for the secular acceleration than the Arabian observations. In fact, to reconcile the two it is essential to suppose that there exists a term of very long period in the Moon's longitude. A term with a period of two or three thousand years—and it has been already shown that terms of this period exist—and a coefficient only three or four times larger than that of Hansen's term would completely reconcile the two classes of observations.

Observations of the Periodic Comet of Tempel, 1878.

By Prof. C. Pritchard.

Oxford Mean Time of Observation.		Apparent R.A. of Comet.	Log Factor of Parallax in R.A.	Apparent N.P.D. of Comet.	Log Factor of Parallax in N.P.D.	Star of Comparison.
	h m s	h m s		° ′ ″		
July 27	10 40 25·8	15 26 2·29	8·5287	97 29 57·7	9·9150	*a*
,, 28	11 10 2·5	15 27 26·01	8·5564	97 55 46·9	9·9125	*b*
,, 31	10 8 42·3	15 31 52·86	8·4972	99 14 28·5	9·9228	*c*
,, 31	10 11 47·7	15 31 52·93	8·5023	99 14 26·7	9·9224	*c*
Aug. 1	10 10 31·5	* 4 18·63	8·5069	* 5 6·3	7·9230	

The assumed mean positions of the stars for January 1, 1878, are

	h m s	° ′ ″
a	15 26 33·85	97 40 8·7
b	15 28 11·06	97 31 20·9
c	15 32 55·37	99 11 17·8

The Comet resembled a faint round nebula of about 1′ in diameter. The condensation was very slight, and the observations refer to the centre of the nebulosity. The observation on July 28 is very uncertain, unfavourable atmospheric circumstances rendering the comet very faint. The second observation on July 31 was made by Mr. Jenkins. The star of comparison on August 1 has not been found in any Catalogue. The observations were made with the Grubb 12¼-inch refractor, by the first assistant, Mr. W. Plummer.

Observation of Encke's Comet. By J. Tebbutt, Esq.

With the help of Dr. von Asten's Ephemeris, in No. 2197 of the *Astronomische Nachrichten*, I succeeded in finding Encke's Comet on the evening of the 3rd instant. It presented the appearance of a small round nebula gradually condensed towards the centre, and was within a few minutes of arc of the position

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1878MNRAS..39...76B

assigned to it in the Ephemeris. I had not time to get a comparison observation. The following night was very cloudy, and the comet could not therefore be observed. On the evening of the 5th, however, I obtained four comparisons with Lalande 20142, which give the following position for the comet:—

$$\text{Aug. } 5^{d}\ 6^{h}\ 29^{m}\ 44^{s} \text{ Windsor M.T.} \begin{cases} \text{App. R.A.} = 10^{h}\ 16^{m}\ 14^{s}{\cdot}2 \\ \text{App. N.P.D.} = 83^{\circ}\ 42'\ 31'' \end{cases}$$

It has been observed on every evening since the 5th, but on the 11th, 12th, and 13th it was excessively faint owing to the increased moonlight. I will forward the observations to the Society when they are completed and reduced. I avail myself of this opportunity to state that I have on several occasions searched for Tempel's comet II. 1873, in the rough positions given in *Nature* of the 21st of March last, but in vain.

Observatory, Windsor, N. S. Wales,
August 14, 1878.

Double Star Observations made in 1877–8 *at Chicago with the* 18½-*inch Refractor of the Dearborn Observatory, comprising, I. A Catalogue of* 251 *Double Stars; II. Micrometrical Measures of* 500 *Double Stars.* By S. W. Burnham, Esq.

(*Abstract.*)*

The astronomical observations contained in the paper were made between July 22, 1877, and October 15, 1878. The new double stars are numbered consecutively with those in the author's former Catalogues published as follows:—

First Catalogue	Nos. 1 to 81	*Monthly Notices R.A.S.,*	March 1873.
Second "	82 " 106	" "	May 1873.
Third "	107 " 182	" "	Dec. 1873.
Fourth "	183 " 229	" "	June 1874.
Fifth "	230 " 300	" "	Nov. 1874.
Sixth "	301 " 390	*Astron. Nach.*, No. 2062.	
Seventh "	391 " 436	" 2103.	
Eighth "	437 " 452	*American Jour. of Science,*	July 1877.
Ninth "	453 " 482	*Monthly Notices R.A.S.,*	Dec. 1877.

The present work forms the tenth Catalogue of the series and extends the number of new pairs to 733. Of the 251 pairs in this list, 75 pairs are from 0″ to 1″ in distance, and 59 pairs from 1″ to 2″.

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* The Paper will be published *in extenso* in the volume of *Memoirs.*—Ed.

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